

Annual Report

2005

Southern
States
Energy
Board

THE ROAD TO
ENERGY FUTURES

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"Through innovations in energy and environmental policies, programs and technologies, the Southern States Energy Board enhances economic development and the quality of life in the South."

Southern States Energy Board

The Southern States Energy Board (SSEB) is a non-profit interstate compact organization created in 1960 and established under Public Laws 87-563 and 92-440. The Board's mission is to enhance economic development and the quality of life in the South through innovations in energy and environmental policies, programs and technologies. Sixteen southern states and two territories comprise the membership of SSEB: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, Texas, U.S. Virgin Islands, Virginia and West Virginia. Each jurisdiction is represented by the governor and a legislator from the House and Senate. A governor serves as the chair and legislators serve as vice-chair and treasurer. Ex-officio non-voting Board members include a federal representative appointed by the President of the United States, the Southern Legislative Conference Energy and Environment Committee Chair and SSEB's executive director, who serves as secretary.

SSEB was created by state law and consented to by Congress with a broad mandate to contribute to the economic and community well-being of the southern region. The Board exercises this mandate through the creation of programs in the fields of energy and environmental policy research, development and implementation, science and technology exploration and related areas of concern. SSEB serves its members directly by providing timely assistance designed to develop effective energy and environmental policies and programs and represents its members before governmental agencies at all levels.

The Southern States Energy Board's long-term goals are to:


- perform essential services that provide direct scientific and technical assistance to state governments;
- develop, promote and recommend policies and programs on energy, environment and economic development that encourage sustainable development;
- provide technical assistance to executive and legislative policy-makers and the private sector in order to achieve synthesis of energy, environment and economic issues that ensure energy security and supply;
- facilitate the implementation of energy and environmental policies between federal, state and local governments and the private sector;
- sustain business development throughout the region by eliminating barriers to the use of efficient energy and environmental technologies; and
- support improved energy efficient technologies that pollute less and contribute to a clean global environment while protecting indigenous natural resources for future generations.



Value-Added Services to Member States

Participation by all member jurisdictions in the Southern States Energy Board Compact is critical not only to the state but also to the region. All of the activities of the Board, as described in this *Annual Report*, benefit the southern region in the development of a sound economy, proper utilization and diversity of energy sources and increased industrialization, while providing for protection of the environment to ensure public health, safety and welfare. SSEB often undertakes state-specific projects with those same goals in mind.

Listed below are value-added services SSEB member states and its citizens receive as members of the Compact.

- SSEB obtains funding for state and regional projects at the request of its membership, committees and working task forces. This funding, provided to our states, generally is far in excess of appropriations paid to SSEB by its members.
 - SSEB negotiates collective funding for member states on programs that support energy and environmental research, education and training, technology development, regulatory reform and other key issue areas.
 - SSEB funds the direct participation of state officials in projects and activities in order to enable states to remain current on new programs, trends and technologies while decreasing the impact of travel on member state budgets.
 - SSEB works directly with businesses and industries on specific economic development projects that create and sustain jobs and expand the economy.
 - SSEB provides regional forums, conferences and workshops in member states that stimulate and promote economic development, while facilitating peer and professional development.
 - SSEB conducts training and other professional development activities that address energy and environmental programs and technologies.
- 
- SSEB conducts research and recommends solutions to specific issues on request of member state officials and businesses.

Report of the Chairman

In accordance with the provisions of the Southern States Energy Board's Compact law, it is my pleasure as Chairman to make this annual report to the President, Congress and the member states and territories. Our 2004-2005 year has been one of unprecedented, record growth and success for the Board. With state appropriations for this year totaling approximately \$632,706, the Southern States Energy Board has generated and reinvested more than \$47 million in its member states and territories through its multifaceted programs and project activities.

Each year it becomes more evident that this Nation is at the leading edge of an international economy that is setting new growth standards. Recent worldwide trends in energy production and consumption indicate that our global economy is growing at an exponential rate. Much of this growth is being fueled by the emergence of developing countries that are providing low-priced labor and tax breaks to lure corporations offshore to increase profits. The effects of this industry exodus on the United States are most evident when economists compare our balance of payments with other nations. Today, after two decades of reforms, the economy of China is growing at an overall nine percent per year, faster than any other in modern history. But their energy use increased 25 percent last year. As the world's second largest purchaser of oil, China soon will demand more cars, appliances, computers and goods and services than any other place in the world.

And we face a similar scenario with India. Unprecedented growth of population and energy growth, coupled with U.S. jobs sent offshore and an emerging middle class, will demand even more energy, goods and services that will provide stiff competition with America in the future.

All of this global growth has come at a time of peaking world oil production which can only intensify the contest for limited access to oil and other fossil fuels in the near-term. Today, the United States consumes about 20 million barrels of oil per day and two-thirds of that oil is imported from the Middle East and other producing nations. The "global oil production peak," the turning point when the world generates the most oil that it will ever produce, is anticipated by some energy economists to occur as early as 2005. If this happens,

oil will become even more expensive than in August of this year, when the price of crude broke the \$66 per barrel barrier for the first time, sending gasoline prices to an all time average high of \$2.41 per gallon. Will Americans choose energy efficiency? Will consumers buy into the lower fuel costs of lighter or hybrid vehicles? Today there are more than 200 million light vehicles on U.S. highways that consume over 11 percent of annual world oil production.



The Honorable Ernie Fletcher
Governor
Commonwealth of Kentucky

Energy Futures

What can we do as a Nation to avoid the risks of rising global competition for oil resources and avert our dependence on dwindling supplies of foreign sources of energy from unstable governments? Our 45th Annual Meeting theme is *The Road to Energy Futures*. It is important that our decision-makers carefully examine the path that we choose, so that our energy supplies, production and demands afford stable and adequate opportunities for future economic growth. Our southern states must pursue all major energy options to ensure that we continue to enjoy a viable electric energy grid system as well as a plentiful supply of transportation fuels. Reliance on other nations for our energy needs may not always be in our best interests on the road to energy futures.

In November of 1973, following the Arab Oil Embargo, President Richard Nixon called on the Nation to achieve “self sufficiency” and first used the phrase “energy independence.” President Gerald Ford continued to use the term in his “Project Independence” campaign. In 1977, President Jimmy Carter carried the message even further, calling for the development of synthetic fuels from coal as well as the deployment of nuclear light water reactors. And yet, today, we remain dependent for two-thirds of our oil on foreign sources, while planning to import large volumes of foreign liquefied natural gas (LNG) to make up for an indigenous natural gas shortfall. As of March 2005, the number of approved and proposed new or expanded LNG import terminals stood at 32, with a capacity to import 15 trillion cubic feet annually. Most of these expansions are planned for southern states.

The development of energy markets will remain central in determining the long-term health of our Nation’s economy. For this reason, we need to strongly consider a path that enables us to balance the importation of foreign energy sources with the use of domestic sources of energy for national security purposes.

A diverse portfolio of fuels and new and innovative technologies is needed to ensure a stable and sustainable energy future in our country, a future that is devoid of electricity blackouts and long lines at the gas pump. The Southern States Energy Board, as a governmental, regional



Kentucky Representative Rocky Adkins, SSEB member, congratulates Governor Fletcher on the February 2005 unveiling of Kentucky’s energy strategy.

energy and environmental organization, serves as a regional catalyst, delivering policies, programs and innovative technologies to provide the advances necessary to determine a bright, economic future in the southern region.

A State Strategy

If the South is to grow and prosper, its leadership and decision-making must be visionary in order to produce the fuels and technologies that will be needed to power industries and businesses. A key aspect of our sustainability is energy development in general and coal resources in particular. On February 7, 2005, I unveiled a comprehensive energy strategy in the Commonwealth of Kentucky designed to grow the state’s economy; utilize energy resources in a sustainable manner; and maintain a strong commitment to environmental quality. This has involved bringing our energy functions in state government into a cohesive unit so that, working together, we can achieve even greater success. A strong state energy office can make a major difference in a state’s readiness to expand its energy resources and fuels portfolio, provide for energy efficiencies in state government, manage programs to assist low-income families, repair and weatherize institutions and homes and expand economic development through progressive policies.

Expanding our coal resource base across this country will be necessary if we are to meet the challenges posed by the future. It is no accident that the Nation’s largest coal producing states, Kentucky, West Virginia and Wyoming, have the lowest cost residential electricity rates in the Nation. The United States is home to 25 percent of the world’s coal resources, enough to supply the country’s needs, if used wisely, for the next two millennia. We must bring this large resource base to our advantage if we expect to compete successfully with other global economic interests.

The education and training of our coal mining workforce is an extremely important aspect of our new energy policy initiative in Kentucky and one that we hope to initiate throughout the southern region. Our miners represent an aging workforce with almost half due to retire within the next seven years. Where will our coal mining states recruit the miners of the future? In the Commonwealth, we are moving toward the establishment of a Kentucky Coal Academy that will enable students interested in the mining profession to receive the training necessary to enable them to work safely and efficiently with new mining techniques and technologies, while earning college credits toward advanced degrees. Our Kentucky Community and Technical College System will lead this effort along with our Division of Fossil Fuels and Utility Services.

Regional Carbon Sequestration Partnership

I am proud that our southern states are poised to confront key energy and environmental issues through their regional instrumentality, the Southern States Energy Board. One of the most dynamic programs underway in southern states this year is the Southeast Regional Carbon Sequestration Partnership. The Partnership is integral to a network of several regional entities forming a nationwide program established by President

Bush's Administration. The Partnership will explore the best approaches for capturing and storing carbon dioxide (CO₂) and other emissions that affect air quality and otherwise will continue to be released to the atmosphere. In its initial phase during 2005, the project examined the South for sources and sinks for carbon dioxide, capture techniques, transport mechanisms, sequestration options and the infrastructure necessary to validate and deploy carbon sequestration technologies. More than 50 businesses, utilities, industries, state-elected and administrative officials, universities and environmental groups are participating in the program, striving towards the President's Global Climate Change Initiative to reduce greenhouse gas intensity by 18 percent by 2012. Successful implementation of this initiative will help protect the South's rich natural environment.

In June of 2005, the Southern States Energy Board was awarded a cooperative agreement for Phase II of this project by the U.S. Department of Energy. This \$34 million overall effort will examine options to utilize captured carbon dioxide for enhanced oil recovery in Gulf Coast states; determine options for sequestering carbon beneath saline aquifers in Mississippi and Louisiana; test sequestration opportunities in the Black Warrior Basin of Alabama; and scrutinize coal fields in Kentucky, Virginia and West Virginia for enhanced coal bed methane recovery.

Coal and Advanced Power Systems

In related activity on fossil energy issues, the Southern States Energy Board maintains a Committee on Clean Coal and Energy Technologies Collaboration. In cooperation with businesses and industries throughout the region, this Committee is examining the potential for gasification of coal to liquid transportation fuels, to offset the Nation's growing dependence on foreign oil. Today, over 60 percent of America's oil consumption is from imports. Our national security demands that we take a more active role in the determination of transportation fuels for the military as well as our consumers. Currently, a preponderance of our national security-related fuels are products of Middle Eastern countries. We should consider altering these policies as a strategic measure to ensure homeland security. Coal gasification processes with near-zero emissions can be demonstrated and available to produce these fuels if we are willing to make the investment.

As a part of its international outreach, the Southern States Energy Board's Committee on Clean Coal and Energy Technologies Collaboration Systems also has been working with the Industrial Estate Authority of Thailand and the coal industry of the Federative Republic of Brazil to identify and address the technical, regulatory and political environments for the development and use of innovative U.S. coal-based technologies.

Partnership for Pipeline Safety

The U.S. Department of Transportation, the National Association of State Fire Marshals and the Southern States Energy Board are engaged in a "partnership for excellence" in pipeline safety with state and local officials, emergency responders and the fire service. The goal of this national program is to assist pipeline operators in meeting the challenges posed by more frequent inspections of high consequence areas as required by the Pipeline Safety Improvement Act of 2002. Pipeline breaches in the southern region during the past year have led to a number of casualties, destruction of property, environmental damages and outages and product supply interruptions. A pilot test inspection program was conducted this past year in Alabama, Arizona, Kentucky and Louisiana. A regional forum was held in Lexington, Kentucky, to provide regional guidance to states on pipeline safety.



Representative Harry Geisinger of Georgia (left), SSEB Member, commends Governor Ernie Fletcher (right) on his leadership in the Board's pipeline safety program.

During the past several years, there has been a marked increase in the importation and use of liquefied natural gas to fuel the Nation's increasing energy and power needs. Four of the six U.S. LNG terminals (Georgia, Louisiana, Maryland and Puerto Rico) are located in the Southern States Energy Board region. The growth that is projected in this industry is unprecedented. The Electric Power Research Institute recently posited that 32 new terminals are scheduled or planned and most of those facilities are proposed to be sited in southern states, in order to take advantage of the existing infrastructure.

In cooperation with the U.S. Department of Transportation and the National Association of State Fire Marshals, the Southern States Energy Board is conducting and participating in a risk assessment of safety and security measures impacting the development and expansion of liquefied natural gas terminals in the South. An important element of this project will be the education and training of emergency and first responders in the basics of LNG terminology and facilities, safety and security, communications, risk-related issues and equipment needs.

Biomass Programs

In 2001, the Southern States Energy Board created the Southern States Biobased Alliance. Members of the Alliance from each state include a gubernatorial appointee from both the executive level and the state legislature. The mission of the Alliance is to develop and promote the use of bioenergy, biofuels and biobased products to foster a regional industry and boost rural economies. Emphasis is given to projects that stimulate economic growth in energy, agriculture and forestry. The Southern States Energy Board also serves as the manager and funding agent for the Southeast Biomass State/Regional Partnership, in cooperation with the U.S. Department of Energy. During this year, a number of significant, collaborative efforts were identified to further enhance the use of biomass in the southern region. These included an educational and marketing package with state-specific data on the use of biomass; a “biomass toolkit” for conducting workshops at the state level focused on rural economic development, including tax incentives and job creation in the agricultural and forestry sectors; expansion of and updating the biomass facility database for southern states; and a technology matrix to match specific technologies with feedstocks. A grant from the Board was provided to the University of Kentucky to showcase the ethanol and biodiesel production processes and the factors involved in establishing and operating ethanol and biodiesel production facilities. The Southern States Biobased Alliance sponsored a major regional workshop in Hebron, Kentucky, in July 2005, for state policy-makers and other biomass stakeholders to discuss incentives for the use of biofuels and biobased products. The goals of the workshop were to enable states to rapidly implement measures that have proven effective across the country; urge states that have incentives to improve their programs; and build networks across state lines to train participants in the development of biomass programs.

Nuclear Power and Waste Transportation

By demonstrating a proven record of safe, stable and sustained excellence in plant operations, nuclear power is continuing to win higher marks of social acceptance in the South and beyond. New reactor designs and safety systems now mitigate the consequences of a serious process failure requiring reactor shutdown, decay heat removal or retention of released radioactivity. While waste disposal is a frequently raised objection, progress toward geologic disposal is moving forward. The Southern States Energy Board’s Committee on Radioactive Materials Transportation consists of gubernatorially appointed state emergency response planners, radiological health professionals, state police and other officials who meet and advise the U.S. Department of Energy on planning for upcoming radioactive waste shipping campaigns. The Committee’s goal is to develop a safe, efficient and effective transportation program for disposing of the

Nation’s spent fuel and high-level radioactive waste at the designated Yucca Mountain repository. The Committee, and its companion, the Transuranic Waste Transportation Working Group, assist the Board and the U.S. Department of Energy in identifying, prioritizing and resolving issues regarding nuclear waste shipments to the Waste Isolation Pilot Plant in Carlsbad, New Mexico.

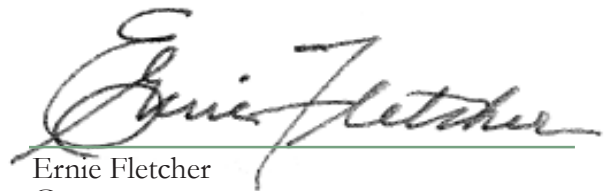
Renewable Energy

The growth potential for renewable energy resources is extremely strong in the South, particularly in the transportation sector. Emerging biodiesel and ethanol markets can offer a myriad of benefits, including greater demand for locally-produced crops and improved health through reduced emissions. Solar and wind programs are being established in the region to promote “green” energy opportunities. Updated and expanded efficiency standards for new appliances, equipment and buildings are stimulated and promoted by state energy offices to capture additional cost-effective energy savings.

The 2nd Annual North Carolina Energy Conference in March brought together more than 600 energy professionals from throughout the Nation to discuss governmental leadership in energy production and use, environmental protection and economic development. Focuses of the meeting were on technological improvements, sophisticated data management and enabling legislation. Co-sponsored by the Southern States Energy Board, the forum featured a “ride and drive” caravan of alternative fueled vehicles that could augment fuel-efficient state fleets.

Conclusion

Ensuring affordable and reliable energy supplies through the use of indigenous fuels is one of the primary goals of the Southern States Energy Board. Throughout the coming year, the Board will continue to shape the policies and technologies that move the region toward a future that leads to prosperity and economic development while balancing the South’s energy and environmental legacy. I commend this *Annual Report* to you as a very successful body of work that has been performed by an outstanding regional organization.



Ernie Fletcher
Governor
Commonwealth of Kentucky
Chairman, Southern States Energy Board

Event Photographs, 2004-2005

Southern States Energy Board 44th Annual Meeting September 11-13, 2004 - Richmond, Virginia



The Honorable Ernie Fletcher (center), Governor of Kentucky and SSEB Chairman, during the Board's Annual Meeting. Seated on his right is former Representative Jimmy Skipper of Georgia. Senator John Watkins of Virginia, the Board's Vice Chair, is seated to Governor Fletcher's left.



Mr. Alex C. de Alvarez, Director of the U.S. Department of Energy's Office of Energy Assurance, briefs members of the Board on the security of the South's energy supply.



The Honorable Brian C. Griffin, SSEB's Federal Representative, addresses the Board during the 2004 Annual Meeting.



The Honorable Sonny Perdue, Governor of Georgia and a member of SSEB's Executive Committee, participates in the Board's 44th Annual Meeting.

Southern States Energy Board 44th Annual Meeting September 11-13, 2004 - Richmond, Virginia (cont.)



The Honorable Mark Warner, Governor of Virginia, welcomes participants to Richmond.



Dr. Patrick R. Esposito, Sr., West Virginia Governor's Alternate to the Board, serves as Co-Chair of the SSEB Task Force on Electric Utility Restructuring and facilitates the Task Force meeting on September 11, 2004.



Mr. Herbert Wheary, Manager of Corporate Public Policy for Dominion, facilitates the SSEB Associate Members meeting as Chairman (2003-2004).



Electricity issues were highlighted in Ms. Lynne Church's presentation to the SSEB Associate Members. Ms. Church is the President of the Electric Power Supply Association.

Pipeline Safety and Security: Identification of High Consequence Areas April 21-22, 2005 - Lexington, Kentucky



The Honorable Ernie Fletcher, Governor of Kentucky and SSEB Chairman, hosts a forum on “Pipeline Safety and Security: Identification of High Consequence Areas” in Lexington, Kentucky, on April 21-22, 2005.



The Honorable James Host, Kentucky's Commerce Cabinet Secretary, provides opening remarks during the Pipeline Safety and Security forum.



Kentucky State Fire Marshal, Mr. Al Mitchell, leads an expert panel highlighting Kentucky as a pilot state in the pipeline safety program.



Ms. Stacey Gerard, Acting Assistant Administrator and Chief Safety Officer for the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration, explains the genesis of the pipeline safety partnership between SSEB, the National Association of State Fire Marshals and the U.S. Department of Transportation.

Building Bioenergy and Biobased Industries: A Workshop on Developing Effective Biomass-Related Policies and Incentives July 11-13, 2005 - Hebron, Kentucky



Dr. John Clark of the South Carolina Energy Office remarks on the importance of a regional biomass energy program to the southern states.



Mr. Gene Quick, Forest Energy Associates, explains how biomass will reduce our dependence on fossil fuels by using forest and farm products.



Mr. Kurt Creamer of the North Carolina Energy Center reviews the advantages and disadvantages of existing state biomass policies and incentives using several case studies.



Mr. Ralph Groschen, Minnesota Department of Agriculture, provides an overview of Minnesota's successful ethanol program.



State Representative Harry Geisinger of Georgia discusses net metering.



On July 13, 2005, workshop participants toured the East Kentucky Power Cooperative's Bavarian Landfill Plant in Boone, Kentucky.

Current Programs & Activities

Carbon Management

Southeast Regional Carbon Sequestration Partnership

The Southern States Energy Board is completing work on Phase I of the Southeast Regional Carbon Sequestration Partnership (SECARB). The research is part of President Bush's Global Climate Change Initiative, which is designed to reduce greenhouse gas intensity by 18 percent by 2012. The two-year Phase I study utilizes a regional approach to determine what options exist for sequestering carbon dioxide, should such a program be needed in the future. SECARB, which is managed by SSEB, is one of seven regional partnerships working with the U.S. Department of Energy. SECARB and the other regional partnerships work with the National Energy Technology Laboratory (NETL) to assess issues related to the capture, transport, storage and use of carbon dioxide emissions from fossil fuel sources.

The SECARB territory initially encompassed a nine-state region including the states of Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee. In March of 2004, Texas and Virginia were added to the region. In March of 2005, portions of Kentucky and West Virginia were included in the SECARB Phase II work plan.

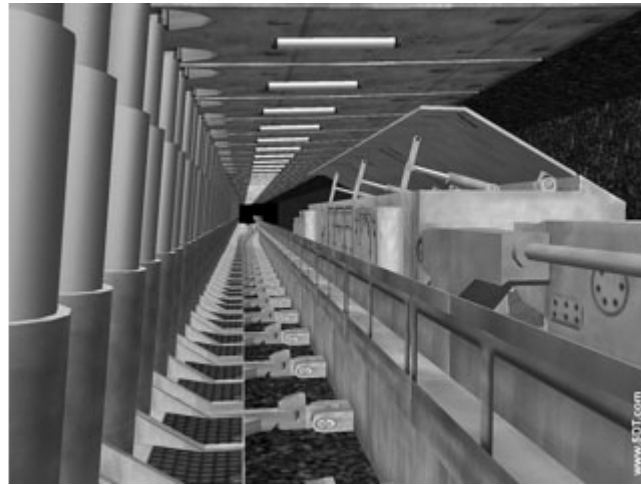
On June 9, U.S. Department of Energy Secretary Samuel Bodman announced that the Southern States Energy Board will receive \$14.3 million in funding for the Phase II Southeast Regional Carbon Sequestration Partnership. The objective of Phase II research is to advance commercialization of climate change technologies. The results obtained during this phase of testing will be crucial to the future of carbon sequestration and the continued use of coal as a significant energy source in a manner that is environmentally responsible. The results also will be critical to the future of DOE's FutureGen power plant, by offering data that will help determine the most ideal location for siting such a plant. FutureGen is a highly efficient and technologically sophisticated coal-fired power plant that will produce both hydrogen and electricity and achieve near-zero emissions by utilizing carbon sequestration technologies.

The Southern States Energy Board will lead the SECARB Partnership in defining the potential for storing CO₂ in three field sequestration validation tests in three target geologic formations. The field validation tests are: 1) a Stacked Storage Project in the Gulf Coast Region that builds upon the Texas Bureau of Economic Geology's experience on the Frio Basin CO₂ Project; 2) a Coal Seam Project for the validation of sequestration opportunities in the Central Appalachian Basin and the Black Warrior Basin; and 3) a Saline Aquifer Project that is focused upon validating geologic storage in close proximity to a large coal-fired power plant in the Electric Power Research Institute's Test Center program. Each field team will undertake design and implementation, local education, outreach and permitting and maintaining the validation test's schedule and budget. Each team will contribute new information to the continued characterization project, and additional resources have been allocated to fill data gaps for the region. The Southern States Energy Board will coordinate cross-cutting validation and regulatory activities, conduct regional outreach and education, combine the program's overall budget and technical information and coordinate SECARB's program reporting requirements. All three field tests, the continued characterization project and the cross-cutting functions are designed to support the FutureGen Initiative by validating technologies and identifying locations throughout the region that could support future full-scale geologic sequestration deployment opportunities.

For further information on SECARB activities, visit www.secarbon.org.

Coal and Advanced Power Systems

The Committee on Clean Coal and Energy Technologies Collaboration is a regional effort by the Southern States Energy Board to promote the increased use of coal domestically and internationally. Composed of state and federal officials, industry and business executives and utilities, the Committee advances opportunities to utilize coal for energy and transportation fuels. Over the years, the Committee has



Virtual Reality Training Simulators are the next generation of miner training equipment. The trainee views the virtual Long Wall and its surroundings with a Head Mounted Display. The trainee controls the virtual Long Wall with a real Shearer Remote Control that is interfaced with the host simulation computer. Images courtesy of Fifth Dimension Technologies, www.5DT.com.

been responsible for linking the development of clean coal technologies with opportunities for economic development throughout the southern region and in the international community.

Educating and Training our Mining Workforce

Of considerable interest to the Committee during this year has been the continuing education and training of the coal mining workforce of the future. Almost one-half of the region's coal miners will face retirement over the next seven years, leaving an industry that is in need of a coordinated effort to centralize training that will increase the productivity of mines and engender new technologies, thereby stimulating economic development. If southern coal resources are better utilized, energy from coal will keep energy costs in the South as the lowest in the Nation.

The development of curricula for miner training and education can be applied through community and technical colleges as well as the university system throughout the South. The Committee currently is exploring several opportunities to bring a regional miner education and training program to fruition. The coal industry is becoming increasingly sophisticated from its computer-driven technologies to its new and innovative mining equipment. These new applications could expand future interest in the mining profession if coupled with educational opportunities.

Coal to Liquids for Energy Independence

The future of American energy security is not to be found in the deserts of the Middle East. Fluctuating energy prices continue to cause disruptions in the American economy, affecting the power supply and transportation fuels sectors throughout the country. Each day the United States imports over 12 million barrels of foreign oil, a dependency that costs the Nation well over \$200 billion per year. In addition, we

also are importing large amounts of natural gas and liquefied natural gas adding to this foreign dependence as well as our trade deficit. If the cost of military spending is added for each year to protect all of these imported sources of energy, then the case for an alternative liquid fuels industry derived from indigenous energy sources must be made.

America faces three major challenges to its energy sector at present. First, many experts predict the "peaking" of world oil production by the end of

this decade or sooner. When this occurs, the competition for declining supplies will intensify and drive prices even higher. The second challenge is an excessive dependence on the Organization of the Petroleum Exporting Countries and other foreign suppliers for our basic needs. The growth of developing countries such as China and India and their heightened need for energy fuels is the third challenge, since it will encourage worldwide competition that also will escalate prices in the future.

The development of an alternative oil production industry from stable supplies of American coal, biomass and oil shale is a solution that deserves immediate attention and action. Stable and secure access to strategic fuels can drive the economy, meet the needs of national defense and increase domestic fuel availability. Commercialization of these indigenous fuels can reduce the risk of supply disruptions associated with imports, improve the Nation's balance of payments, provide new federal and state royalty and tax revenues and increase domestic employment and economic growth.

The SSEB Committee on Clean Coal and Energy Collaboration has begun to examine the domestic policies and technologies needed to begin the development of an alternative oil production industry in the southern states. Entire business and industry sectors in the region already are suffering from high fuel and feedstock prices. These include the airlines, package and food delivery, trucking, automobile manufacturing and petrochemicals, among others. To survive, many American companies are building new plants offshore, along with supporting research and development facilities, causing the loss of jobs, intellectual property and tax base. In order to reverse this trend, we must offer businesses and industries a long-term solution to the current situation. These unprecedented risks can be mitigated if we make a commitment to produce our own fuels.

International Activities

Through the U.S. Department of Energy's Office of Clean Coal and Energy Collaboration, the Southern States Energy Board maintains a productive partnership for examining opportunities to export coal and clean coal technologies to developing countries. In cooperation with the Cleaner Fossil Fuel Systems Committee of the World Energy Council and the U.S. Energy Association, the Committee leverages U.S. resources to influence international opportunities toward the deployment of clean coal technologies and advanced power systems.

The Southern States Energy Board and the Industrial Estate Authority of Thailand signed a Memorandum of Understanding (MOU) in 2002 to explore measures to improve and enhance the economic and environmental performance of Thai industrial estates. The Committee currently is discussing eco-industrial development scenarios to turn waste streams into productive resources that provide solutions to industrial and environmental problems while stimulating markets for new products. The goal is to involve southern U.S. manufacturing industries and service companies in providing answers to economic and environmental issues while marketing their products abroad.

The Committee plans to continue its participation in the international expert's panel on mercury emissions that has been organized by the International Energy Agency's Clean Coal Centre. The panel is working to produce international agreements on mercury emissions and focusing on legislation; behavior of mercury during combustion; control options; measurement and monitoring; and future technology risks.

During 2003, the United States initiated the International Carbon Sequestration Leadership Forum (CSLF) with the Southern States Energy Board as a key stakeholder participant, on behalf of its member states. With more than 16 nations participating, the objectives of the Forum are to develop and adopt technologies for carbon dioxide separation, capture, transport and storage; address sequestration issues; leverage international breakthroughs by information sharing and joint partnerships; and ensure the participation of key stakeholders for international coordination, as well as public information and education. The Southern States Energy Board, through its Committee on Clean Coal and Energy Technologies Collaboration, participates as a stakeholder and through the CSLF Task Force on Legal, Regulatory and Financial Issues.

Biobased Products and Bioenergy Development

The U.S. Department of Energy's regional biomass energy program was revamped in 2003 and identified as the National Biomass State/Regional Partnership. It is divided into five regional partnerships, and the Southern States Energy Board is the host organization for the Southeast. Under the auspices of SSEB, the Southern States Biobased Alliance serves as the lead regional body for state and regional partner-

ship activities. The state biomass coordinators act as the technical arm of the Alliance in determining state-specific activities and providing technical assistance at the state and local level.

Southern States Biobased Alliance

Formed in July 2001, the Southern States Biobased Alliance works in an advisory capacity to the Southern States Energy Board, addressing the development of biobased products and bioenergy within the southern region. The Alliance has developed a formal mission to provide leadership and develop strategies that will foster a biobased industry and boost rural economies in the southern states. The Alliance members are gubernatorial appointees who are state legislators representing SSEB member states and representatives of the public or private sector who are active in energy, environment, agriculture and forestry issues. Currently, Representative John Raymond Reeves, Mississippi, and Mr. John Davies, Kentucky Energy Efficiency and Renewable Energy Division under the Office of Energy Policy, serve as the interim co-chairs of the Alliance. In addition, Mr. Davies serves as the state representative for the Southeast with the National Biomass State/Regional Partnership.

Upon its inception, the Alliance established goals to guide the group in building public/private partnerships that advance the economy of the region through unique state, local and industry networks. These goals provide regional leadership to the Southern States Energy Board and its member states through:

- Alliance meetings and activities that foster communication, coordination and collaboration among members to enhance development of a biobased industry in the region;



Southern States Biobased Alliance interim co-chairs, Representative John Raymond Reeves of Mississippi (right) and Mr. John Davies of the Kentucky Division of Energy Efficiency and Renewable Energy (left), provide opening remarks during a July 2005 forum entitled "Building Bioenergy and Biobased Industries: A Workshop on Developing Effective Biomass-Related Policies and Incentives."

- recommendation of policies and programs that foster development of a biobased industry in the region;
- identification of strategies that stimulate markets for biobased products and technologies;
- providing electronic access to information, public forums and appropriate links to facilitate information transfer on biobased products and bioenergy; and
- advancing research, development and demonstration of biobased technologies and promoting the use of those technologies.



East Kentucky Power Cooperative's Bavarian Landfill Plant in Boone County, Kentucky. The Plant utilizes the methane gas from decaying municipal waste to produce electricity for more than 3500 households in northern Kentucky.

Key activities are focused on stimulating markets for biobased products and bioenergy. Learning about policies and incentives in other states, both in the South and in other regions, is integral to determining the proper approaches that will stimulate economic development.

In conjunction with the regional steering committee meeting, the Southern States Biobased Alliance sponsored a workshop in July 2005 for participants to examine the impact of biomass-related policies and incentives. The impetus of the workshop was the completion of a study funded through the National Energy Technology Laboratory entitled *An Assessment of Biomass-related State Programs and Policies*. This analysis considers a broad range of policies and incentives throughout the United States and examines their impact on the bioenergy and biobased product industry.

A number of national and regional organizations co-sponsored the workshop resulting in a broad cross-section of stakeholder representatives participating in a dynamic forum, exchanging ideas and sharing practical experiences. Attendees included state legislators, state energy office directors, state officials, industry, foresters, farmers and academia.

The goal of the forum was to stimulate discussion among state government policy-makers and other biomass stakeholders to collaborate on the development and implementation of biomass-related incentives. States are leading the way to foster and stimulate markets for bioenergy and biofuels. The dialogue among the regional leaders participating in the forum presented many observations related to policies and incentives.

One of the highlights of the workshop was a tour of East Kentucky Power Cooperative's Bavarian Landfill Plant in Boone County on July 13. This plant is the first in Kentucky to produce electricity from methane gas from decaying municipal waste. The U.S. Environmental Protection Agency estimates as many as 500 additional landfills could cost-

effectively tap methane as an energy source, producing enough electricity to power one million homes across the country.

Economic circumstances and development goals vary among southern states. Meanwhile, rural economies across the South suffer from slowed production and a decrease in the value of farm crops. At the same time, our country's demand for energy and continuing increase and dependency on foreign energy sources is jeopardizing our economic security. The South has 214 million acres of forest land, primarily owned by private landowners, and over one-third of America's farmland. Our region has potential for renewable, expandable and sustainable sources of energy as well as chemical feedstocks.

Southeastern Biomass State/Regional Partnership

The regional biomass energy program was created by Congress in 1983 under the Energy and Water Development Appropriations bills, PL 97-88 and PL 98-50. The enabling legislation instructed the U.S. Department of Energy to design its national program to work with states on a regional basis, taking into account regional biomass resources and energy needs. The five regional programs, working with representatives in all 50 states, Puerto Rico, the U.S. Virgin Islands and the District of Columbia hosted primarily by regional governors' organizations, are recognized nationally for their combined experience related to biomass technologies and policies.

In 2002, DOE integrated all the biomass activities under the Office of the Biomass Program (OBP). As part of the reorganization, the Southern States Energy Board, the Coalition of Northeastern Governors Policy Research Center, Inc., the Council of Great Lakes Governors, the Western Governors' Association and DOE developed objectives for a State/Regional Biomass Partnership that redefines the former DOE

Regional Biomass Energy Program. The goal of the Partnership is to work cooperatively with the DOE-OBP to facilitate the increased use of bioenergy and biobased products through coordinated federal, regional and state outreach, education and technical assistance programs.

Similar to all the regional partnerships, the Southeastern Biomass State/Regional Partnership is structured to provide state and regional grants to accomplish specific goals related to education, outreach and technical assistance. As before, the Southeastern Partnership includes Alabama, Arkansas, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Missouri, Mississippi, North Carolina, Puerto Rico, South Carolina, U.S. Virgin Islands, Virginia and West Virginia.

Currently, the Partnership is preparing an information “toolkit” for state officials. The toolkit consists of a several factsheets covering a number of bioenergy and biobased product topics that are designed to provide basic information for state decision-makers. In addition, the Partnership is developing a state-generic State Policy-makers Briefing Package to complement the bioenergy and biobased products toolkit for state officials. The template and package will assist state officials in conducting briefings in their states.

Another Partnership activity underway is the updating of a computerized database of bioenergy and biobased facilities in the region. Over the next year, the database will be available on the SSEB website for public access.

In support of the goals of the National Biomass State/Regional Partnership, a technology matrix is being prepared for the national Partnership and states. Listings of the following will be developed as part of the matrix:

- major types of biomass feedstocks;
- potential energy end-use and applications;
- potential biofuel products; and
- biomass conversion technologies that are commercially available.

The technology matrix will allow users to match end-use applications and biomass feedstocks with specific characteristics to appropriate conversion technologies. Ultimately, this will increase bioenergy development intensity.

The Southeast Biomass State/Regional Partnership will continue to meet in the upcoming year to develop and implement regional strategies and activities. Beyond the potential economic development benefits, participating states gain the opportunity to strengthen and integrate the work of energy, agriculture, forestry, environmental and other state agencies. Where issues are the same among several states, strategies can be developed to address these issues across state borders.

SSEB maintains an active website for the Southeast Biomass State/Regional Partnership (www.serbep.org).

United States-Brazil Biodiesel Pilot Study

On June 19, 2003, U.S. Department of Energy Secretary Spencer Abraham and Brazilian Mines and Energy Secretary Dilma Rousseff signed a Memorandum of Understanding to conduct a Ministerial Summit on energy issues in Brazil. Pursuit of joint objectives in clean energy and biofuels were specifically addressed in the MOU.

In support of this collaboration, DOE funded SSEB to conduct a United States-Brazil Biodiesel Pilot Project as a bilateral effort to enhance the prospects for success in developing biodiesel use in Brazil. The purpose of this project is to promote the commercialization of biodiesel and bioenergy production, technologies and usage in Brazil. The project consists of three primary components: Policy and Program Development; Feasibility Study and Technical Analysis; and bioenergy meeting design and execution to meet the U.S. Department of Energy's goals. The focus of these activities is to provide market development assistance to the Brazilian biodiesel market by assisting with an evaluation of the economic viability of producing biodiesel.

Specifically, the prefeasibility study addresses:

- feedstock assessment;
- technology evaluation;
- Brazilian market segmentation (opportunities and barriers);
- evaluation of petroleum distribution channels;
- market drivers and demand potential;
- evaluation of economic viability; and
- factors to consider and recommendations.

The preliminary analysis shows that soybased biodiesel plants will have an economic advantage in the interior region of Brazil compared to plants constructed on the coast. This is due to the slightly lower cost of soybean oil and the slightly higher price of diesel fuel in the interior. However, the analysis also demonstrates that public policy will play an important role in the development of the Brazilian biodiesel industry. During the project period, the Brazilian government has undergone political and regulatory changes that impact the results of the feasibility study.

In January 2005, SSEB conducted a Biodiesel Risk Workshop that was held in conjunction with the National Biodiesel Board's Biodiesel Conference & Expo in Ft. Lauderdale, Florida. Brazilian and U.S. attendees were presented with economic information relative to the Brazilian industry. Attendees included the National Petroleum Agency, the Federal University of Paraña and a private fleet operator. In addition, representatives of U.S. firms and the U.S. Department of Agriculture were present as well as biodiesel produc-

ers and firms providing technical support to the biodiesel industry.

Water for Energy

The Southern Water Supply Roundtable, cosponsored by the Southern States Energy Board and the University of Tennessee, has been operating for over 5 years. As interstate and intrastate conflicts over water quality, use and supply continue, it will be increasingly difficult to find suitable locations for new power plants and industrial facilities that require water and energy.

The Southern Water Supply Roundtable's mission is to help achieve a balanced and sustainable future water supply for the southern region of the United States. Its objectives include assisting scientists, engineers and decision-makers to acquire and disseminate useful water data; promoting regional water conservation and end-use efficiency by public and private users; and educating decision-makers and the public on regional water issues.

During 2005, SSEB has continued to work with the U.S. Department of Energy's National Energy Technology Laboratory on a Water for Energy Program. Energy security and diversity concerns have been factored into SSEB's assessment of the energy-water interface. Emphasis has been placed on regional efforts to deploy clean coal technologies, such as gasification, and the associated water needs of these technologies. Discussions are underway with the Electric Power Research Institute to better align water-related technology development with regional water policy considerations. Technology development and policy solutions must balance the water needs of the energy industry with other industrial,

commercial and residential requirements. At the same time, we must protect the aquatic environment and continue to provide quality recreational opportunities within waters of the southern region. The Water for Energy Program provides a forum for discussing current and emerging water issues that could impact electricity generation in the United States.

Environmental Technology Development, Deployment and Training

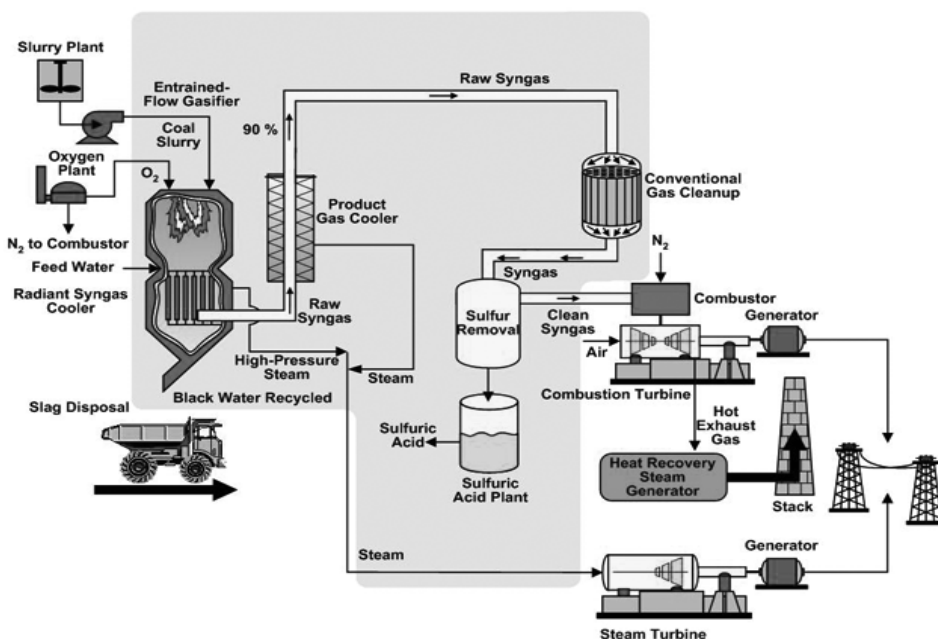
Interstate Technology and Regulatory Council

During February of 1995, the Southern States Energy Board was one of the founding members of the Interstate Technology and Regulatory Council (ITRC), a state-led coalition working together with federal partners, industry, academia and stakeholders to achieve regulatory acceptance of environmental technologies. ITRC consists of representatives from 43 states that work to eliminate barriers and reduce compliance costs, making it easier to use new technologies and helping states maximize resources. The ITRC fosters better decision-making within state environmental agencies and enhances the understanding of these technologies both within public communities and the environmental industry through no or low-cost informational and training resources.

SSEB continues to provide strategic guidance and operational support to the ITRC as a regional co-sponsor by providing a program advisor who offers technical and regulatory advice to member jurisdictions on work group initiatives and product developments as well as offering support to state

representatives, technical team leaders and in developing documentation and successful implementation of ITRC environmental remediation products.

ITRC is building the environmental community's ability to expedite quality decision-making while protecting human health and the environment. The organization is a unique catalyst for dialogue between a diverse mix of regulators and the regulated community and consists of over 500 active members. The group focuses on issues that are important to the states through a Five Year Program Planning



Schematic of the Integrated Gasification Combined-Cycle Plant employed by Tampa Electric Company's (TECO) Polk Power Station in Mulberry, Florida. The Polk Plant is acclaimed as one of the cleanest coal-based power generating facilities in the world. Schematic courtesy of TECO.



process and has developed guidance documents, national training courses (internet and classroom) and an environmental focus on technology areas such as accelerated site characterization, in-situ bioremediation, permeable barrier walls, phytoremediation and

diffusion samplers. Globally, over 21,800 participants worldwide have been trained using an internet-based education program and some 5,000 have participated in professional classroom training, many with continuing education credits. There currently are 14 active teams, including several formed in 2004, focusing on environmental issues such as perchlorate, vapor intrusion, ecological enhancement and enhanced attenuation of chlorinated solvents.

During this fiscal year alone, training opportunities have been afforded to over 575 participants from states represented by the Southern States Energy Board. As the ITRC network grows, more individuals will become involved in the training activities and in utilizing ITRC's technical knowledge, thereby easing the implementation of environmental remediation activity.

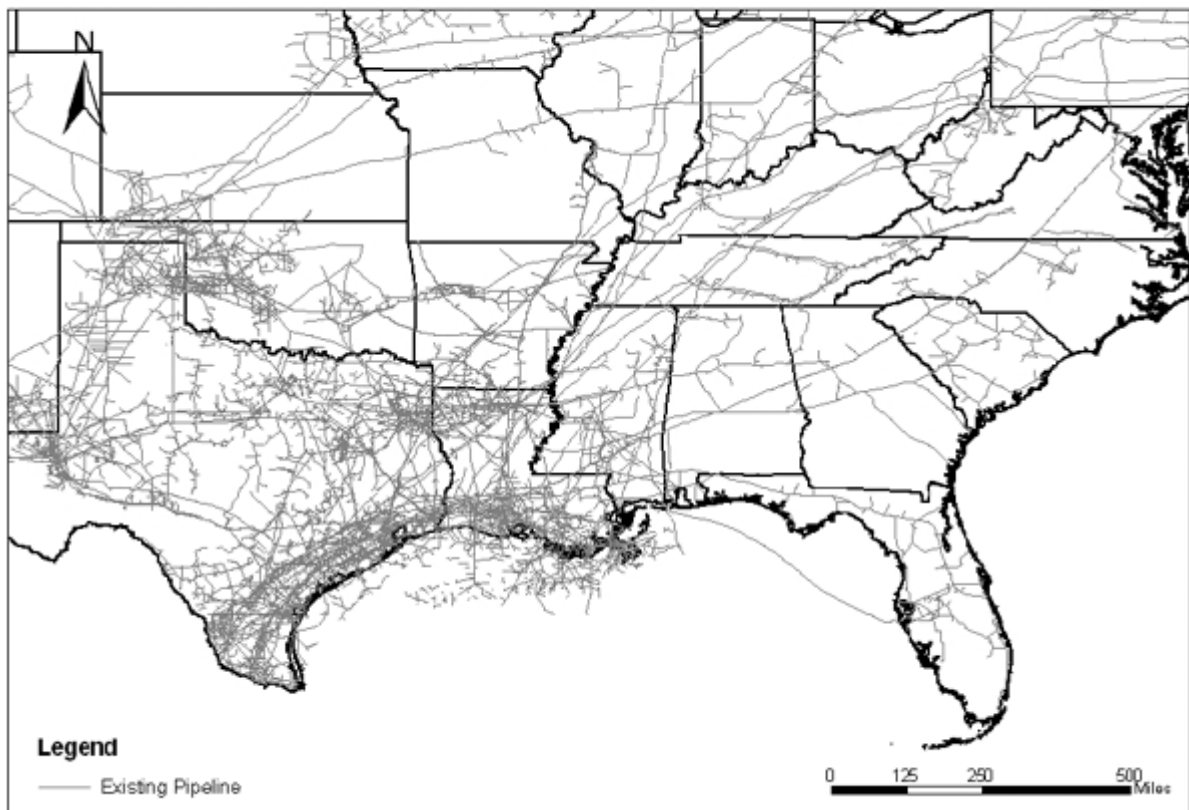
Partnership for Pipeline Safety

High Consequence Areas for Natural Gas Transmission Lines

In accordance with the 2002 Pipeline Safety Improvement Act, natural gas transmission pipeline operators are required to identify and more frequently inspect "high consequence areas," where incidents or accidents could have disastrous effects for local communities. The Act also requires pipeline operators to communicate with emergency planners and local first responders to provide a better understanding of the potential consequences if a pipeline is compromised and develop a plan of action to mitigate damages and impacts in the community.

The U.S. Department of Transportation, the National Association of State Fire Marshals and the Southern States Energy Board are cooperating in a joint venture that encourages pipeline operators and emergency responders to interact regarding the special challenges faced by local communities where large populations and pipelines intersect. In the past, pipelines often were built at the outskirts of a community, enabling a more isolated response if an incident occurred. But today, numerous communities have expanded beyond the original proportions expected by planners, creating a situation where many pipelines intersect, transcend and encompass developed areas.

Existing Pipelines in Southeast Region



Map courtesy of the Massachusetts Institute of Technology.

The program created by the partners was pilot tested this year in four states: Alabama, Arizona, Kentucky and Louisiana. The results of the pilot test and lessons learned were shared by all southern states in a regional forum addressed by Governor Ernie Fletcher as Chairman of the Southern States Energy Board. The meeting was designed to heighten awareness for homeland security issues and ensure coordination and cooperation among government and industry in matters of pipeline safety. A textbook, instructor's guide and DVD on pipeline emergencies have been developed by the Partnership to provide a curriculum for emergency responders from public safety and industrial organizations. The Partnership is in the process of distributing and sharing this curriculum in training sessions with fire service personnel throughout the country.

Liquefied Natural Gas

The Electric Power Research Institute announced during 2004 that 55 new liquefied natural gas (LNG) terminals are projected, proposed, planned or scheduled to be built in the United States, ushering in a greater quantity of imported fuel that will be expected to play a major role in the Nation's economy. Many industry analysts predict that only 12 will be built. Due to the existing infrastructure and the availability of deep ports in the South, it is projected that the majority will be located in our region.

In light of these developments, and in accordance with its Partnership for Pipeline Safety with the National Association of State Fire Marshals and the Southern States Energy Board, the U.S. Department of Transportation has identified the need for a risk assessment of safety and security issues regarding

the vulnerability of and potential homeland security threats to liquefied natural gas technologies and facilities. According to data published by the U.S. Federal Energy Regulatory Commission, four of the six existing LNG terminals in the United States are located in Southern States Energy Board member jurisdictions.


A comprehensive safety and security planning tool for LNG facilities is being designed by the partnership and will be augmented by additional comprehensive training materials. Briefings for state emergency planners, local fire service officials and LNG facility representatives currently are being pilot tested and a training program is being devised in LNG basics and safety, communications, security measures, local issues based on topography and emergency response, etc. A community outreach program is targeting state and local legislators, businesses, civic and opinion leaders. Local fire service leaders and state emergency responders are being trained to use and teach from the pipeline emergencies materials that have been developed and are mentioned above. Following the pilot testing phase, the project will be expanded to other regions and facilities so that new and emerging terminals can share in the benefits of the program.



Four of the six existing LNG terminals in the United States are within SSEB's member jurisdictions.

- Elba Island, Georgia
- Lake Charles, Louisiana
- Cove Point, Maryland
- Peñuelas, Puerto Rico

Source: U.S. Federal Energy Regulatory Commission

Peñuelas, PR 

Radioactive Materials: Emergency Response and Transportation Planning

High-level Radioactive Waste Transportation

Since 1986, the Southern States Energy Board has been active in the South developing a safe, efficient and effective transportation program for disposing of the Nation's spent fuel and high-level radioactive waste. To effectively manage this task, the SSEB created the Radioactive Materials Transportation Committee, a group of regional, gubernatorially-appointed state emergency response planners, radiological health professionals and other state agency officials who work to identify and review issues specific to the transportation of these wastes through our membership states. To achieve these goals, the Committee meets bi-annually to examine institutional, legal and technical issues regarding the U.S. Department of Energy's transportation activities related to radioactive materials.

The Committee's primary focus is the development of a federally designated repository for spent fuel and high-level radioactive waste. The proposed repository, Yucca Mountain, is located approximately 100 miles northwest of Las Vegas, Nevada. In support of this plan, SSEB continues a partnership with the DOE Office of Civilian Radioactive Waste Management (OCRWM) to address specific tasks prior to the initiation of a shipping campaign through the South. This year, the Committee has been working on the review and revision of a DOE/OCRWM Radioactive Materials Transportation Practices Manual, which concerns issues such as shipment prenotification, rail shipments, tracking and safe parking. Another directive of the Committee is to develop or review a regional suite of routes for shipments from sites (DOE facilities, commercial power plants and other storage sites) in the southern region or traversing the region. Additionally, the Committee has continued to address the implementation of Section 180(c) of the Nuclear Waste Policy Act, which provides technical assistance and funds to states and tribes for training in jurisdictions where spent fuel and high-level radioactive waste will be transported.

Finally, the Committee has been approved to conduct a Barge Shipment Feasibility Study. The goal of the special project is to determine the feasibility of transporting spent nuclear fuel by barge shipment from specific commercial reactors within the southern region to an entry port near the Yucca Mountain repository. The Committee will evaluate navigable water routes, transit times and security issues related to barge shipments as well as potential barriers. This information will then be compiled into a final report.

Transuranic Waste Transportation

Since 1989, the Southern States Energy Board Transuranic (TRU) Waste Transportation Working Group has undertaken the task of regional planning for shipments of



View of an exploratory tunnel dug by the 25-foot diameter tunnel boring machine at Yucca Mountain. Photo courtesy of the U.S. Department of Energy.

TRU waste from southern and midwestern DOE National Laboratories to the Waste Isolation Pilot Plant (WIPP) near Carlsbad, New Mexico. Under a cooperative agreement with DOE's Carlsbad Field Office, this group of gubernatorial appointees works collaboratively with the Department on all matters pertaining to the transportation of transuranic waste. The following states participate on this committee as a part of the current or potential future shipment corridors: Alabama, Arkansas, Georgia, Indiana, Kentucky, Louisiana, Maryland, Mississippi, Missouri, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia. Each state representative brings a specific area of expertise to the group, such as the fields of transportation planning, radiological health and emergency response.

The WIPP facility has received over 3,600 shipments of contact-handled transuranic waste (CH-TRU) since opening in March 1999. The first shipment from the southern region, originat-



An accident response exercise, known as the WIPP Transportation Exercise (WIPPTREX), was conducted in 2005 by the states of Alabama, Georgia and Texas. This is a dramatization to test emergency preparedness. Photo courtesy of the Georgia Emergency Management Agency.

ing at the Savannah River Site (SRS) in South Carolina, departed on May 8, 2001. SRS has made over 500 shipments which represent more than 800,000 miles of highway transport. Currently, SRS sends approximately four to six TRU shipments per week to WIPP. The Oak Ridge National Lab (ORNL), another major DOE laboratory in the South, could begin shipping CH-TRU waste at the end of 2005. In addition, ORNL and SRS will begin shipping remote-handled transuranic waste in 2006.

In addition to planning efforts for DOE laboratories, the Working Group has facilitated the transportation of waste from DOE's Small Quantity Sites as well. One such site, the Mound Facility in Miamisburg, Ohio, is scheduled to make three remaining rail shipments by August 2005. Upon completion of the shipments, the Mound Facility will be decommissioned. The rail route from Mound to SRS will transit Ohio, Kentucky, Tennessee, Georgia and South Carolina. Upon arrival at SRS, the waste will be repackaged and eventually transported by truck to WIPP.

To assist with preparation for these shipments, SSEB issues subgrants in excess of \$1 million dollars per year to states along the initial shipping corridor from the Savannah River Site to WIPP. This funding supports equipment purchases, emergency response preparedness activities, public outreach programs, shipment tracking and other planning activities in each state. Most recently, the states of Alabama, Georgia and Texas used a portion of their funding in 2005 to host an accident response exercise known as the WIPP Transportation Exercise (WIPPTREX). The WIPPTREX allows states to test their level of preparedness and also offers the opportunity for the integration of federal, state and local emergency response planning activities.

Foreign Research Reactor Spent Nuclear Fuel

The Southern States Energy Board and its committees continue to coordinate with the U.S. Department of Energy to safely transport foreign research reactor spent nuclear fuel from countries abroad to both the Savannah River Site and the Idaho National Laboratory (INL). This situation dates back to the Atoms for Peace Program of the 1950's, which loaned research reactor fuel to foreign nations. The SSEB-DOE program honors the United State's commitment to take back the spent fuel. The return program is a part of the U.S. government's non-proliferation policy to ensure the material will not be diverted into weapons of mass destruction. Thus, DOE requested the assistance of SSEB in 1994 to form an ad-hoc committee to assist in the transportation planning for two urgent relief shipments of foreign spent fuel. After the successful completion of these shipments, the Department



Spent fuel shipment in route to Savannah River Site (SRS). Photo courtesy of the U.S. Department of Energy.

formalized their policy concerning the return of these materials which led to the formation of SSEB's Foreign Research Reactor Spent Nuclear Fuel Transportation Working Group and the Cross-Country Transportation Working Group (CCTWG).

Since their formation, these committees have assisted the transportation planning process by informing their state agencies and local officials about the program, coordinating with the shippers and state officials to develop a transportation plan and identifying first responder needs. The U.S. Department of Energy is in its ninth year of the 13-year return program and relies heavily on the efforts of the SSEB committees to implement detail-oriented planning for safe and secure transport.

The majority of the shipments enter the United States via the southern region and are stored at SRS or INL depending on the fuel type. If the fuel must be shipped cross-country to Idaho, the CCTWG coordinates with DOE to develop a transportation plan for movement from SRS to INL. SSEB



International Standards Organization (ISO) container staged for transit from the Naval Weapons Station, South Carolina. Photo courtesy of the U.S. Department of Energy.

membership in the CCTWG is composed of the states of Georgia, Kentucky, South Carolina and Tennessee. These states are a part of the transportation corridor for DOE's primary and alternate routes.

In May 2005, SSEB staff discussed their involvement in the foreign fuels program before the National Academy of Sciences (NAS) Nuclear and Radiation Studies Board. The NAS panel is authorized by Congress to review how the Department selects potential routes to its facilities currently licensed to accept such fuels; how DOE selects a route for a specific shipment; and how the Department assesses risks associated with shipments along a route.

Southern Emergency Response Council

Formed in 1972, the Southern Emergency Response Council (SERC) exists as a formalized emergency response agreement among the southern region to respond in case of a radiological incident. SERC representation is comprised of the 14 signatory states of the Southern Agreement for Mutual State Radiological Assistance, including Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas and Virginia.

The Southern Agreement for Mutual State Radiological Assistance is implemented through the Southern Mutual Radiation Assistance Plan (SMRAP). Created as a blueprint for coordinating radiological emergency assistance capabilities among participating states in the southern region, SERC representatives review, revise and administer SMRAP on an annual basis to reflect changes in state emergency response capabilities and equipment. This document outlines the mutual aid agreement, the implementation process, emergency response contacts and available state resources.

An annual SERC meeting is held by SSEB to provide members with a forum to discuss matters related to SMRAP. Furthermore, SSEB operates as regional coordinator for the testing of SMRAP activation procedures during joint power plant exercises between the states. During the 2004 SERC meeting in King of Prussia, Pennsylvania, the membership was briefed on insurance policies currently available for nuclear power plants and coverage available for acts of terrorism, both domestic and international.

Regional Recycling Market Development

The Southern States Waste Management Coalition was created by resolution of the Southern States Energy Board in 1992. Areas of interest include waste minimization, source reduction, recycling, composting, waste to energy, land filling, re-fill/re-use, etc.

In cooperation with the U.S. Environmental Protection Agency's Region IV office, the Coalition launched the Recycle Guys campaign in 2001. Created in 1997 by the South Carolina Department of Health and Environmental Control, the Recycle Guys are animated characters featured in a series of public service announcements (PSAs) to promote recycling and energy conservation. Their message is conveyed in a variety of video clips and radio spots.

During Phase I of this program, the states of Alabama, Florida, Georgia, Kentucky, Mississippi and Tennessee were awarded funding through the Southern States Energy Board to adopt the existing South Carolina Recycle Guys model by purchasing three public service announcements. Phase II of the Recycle Guys campaign began in 2003 and will continue through December 2005. Participants include the eight EPA Region IV states of Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina and Tennessee. The current funding for Phase II of the regional campaign is used to strengthen the state campaigns by purchasing cable television air time for the Recycle Guys PSAs adopted during Phase I, purchasing additional Recycle Guys PSAs or financing



The Recycle Guys appear in a series of public service announcements promoting recycling and energy conservation. Image courtesy of the South Carolina Department of Health and Environmental Control.

other Recycle Guys promotional activities identified by the state Recycle Guys campaign coordinators. The Recycle Guys campaign continues its recognition as a key component to the region's public and political awareness activities. Outside the SSEB region, several U.S. states, communities and universities have adopted the campaign. Further, the South Carolina Department of Health and Environmental Control reports

that they have sent educational materials for distribution to recycling coordinators in the countries of England and Ireland.

In light of budget and travel restrictions within state and local governments, a portion of the Phase II funding is allocated to travel reimbursement awards. These awards are necessary to obtain state and local officials' involvement in important national and regional recycling meetings.

Electric Utility Restructuring

The Southern States Energy Board member states have long enjoyed an abundant supply of low-cost energy. While the region continues to enjoy lower energy bills as compared to other regions of the country, the region, like the rest of the country, has experienced an increase in energy prices during the past year. Electricity prices increased as much as 20 percent in the last year, mostly due to fuel costs. Oil, gas and coal prices have all increased.

Three (Maryland, Texas and Virginia) of the Southern States Energy Board member states have restructured, or are in the process of restructuring, their electricity industry at the retail level. All of the remaining utilities are operating in a market-based wholesale market.

The Electric Utility Restructuring Task Force consists of Southern States Energy Board members. Established in 1997, the Task Force provides a regional forum for the southern states to exchange information and ideas on the changing electric utility industry. The members monitor state and federal activities related to the electric utility industry on a regional and national level.

Energy & Environment Legislation

The Southern States Energy Board annually publishes the *Energy and Environment Legislative Digest*. The *Digest* is a compendium of representative energy and environmental quality measures enacted by the Board's 18 member states and territories during the current legislative session. For more than 20 years, SSEB has published the *Digest* as a research tool and reference for state legislators and their staff to develop and refine laws in their respective states. The *Digest* captures the South's trends in energy and environmental legislation.

During 2005, the SSEB member governors signed more than 450 energy and environment bills into law. Energy-related legislation focused primarily on natural gas and petroleum regulation and utility management issues. With regard to environmental issues, a significant portion of the bills passed this year encompassed inland water resource management and conservation and land management and

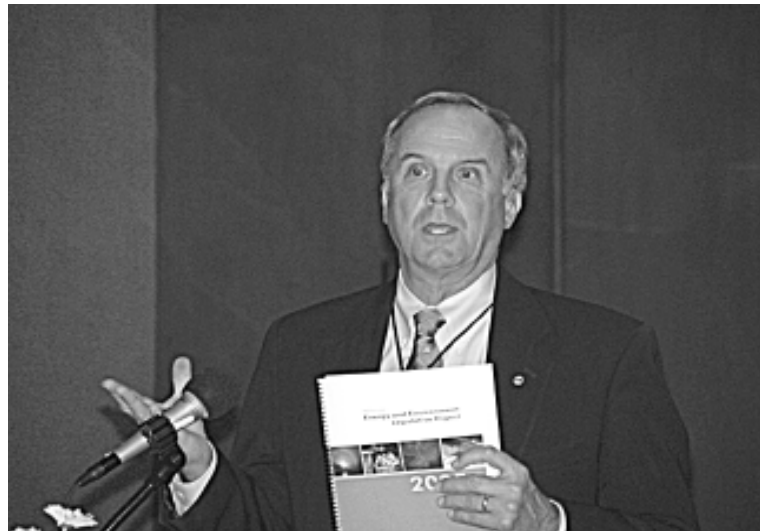
conservation. An analysis of the legislative activity in the SSEB member states shows that the region remains committed to protecting our natural resources and environmental quality.

Industry Partnerships

Established in 1984, the Southern States Energy Board's Associate Members program represents a valuable partnership between the industry and government sectors. The Associate Members provide the Board with strategic guidance for programs and policies.

Of particular interest to the Associate Members this year was the passage of House Resolution 6, also known as the National Energy Bill, which was signed into law by President George W. Bush on August 8, 2005. In addition, the Associate Members also have focused on issues related to:

- air quality;
- electricity grid modernization, including regional investments in the region's distribution system;
- the Low-Income Home Energy Assistance Program;
- carbon management, including CO₂ sources and sinks in the region;
- natural gas supply and infrastructure;
- water for energy; and
- state energy and environmental legislation.



Virginia Senator John C. Watkins, SSEB's Vice Chairman, presents the *Preliminary Energy and Environment Legislative Digest* to legislative members of the Board in July 2005.

Associate Members

AGL Resources

American Electric Power

BP America

Center for Energy & Economic
Development

ChevronTexaco

Composite Technology Corporation

Dominion

East Kentucky Power Cooperative

Edison Electric Institute

Entergy Services, Inc.

Florida Power & Light Company

Nuclear Energy Institute

Old Dominion Electric Cooperative

Progress Energy, Inc.

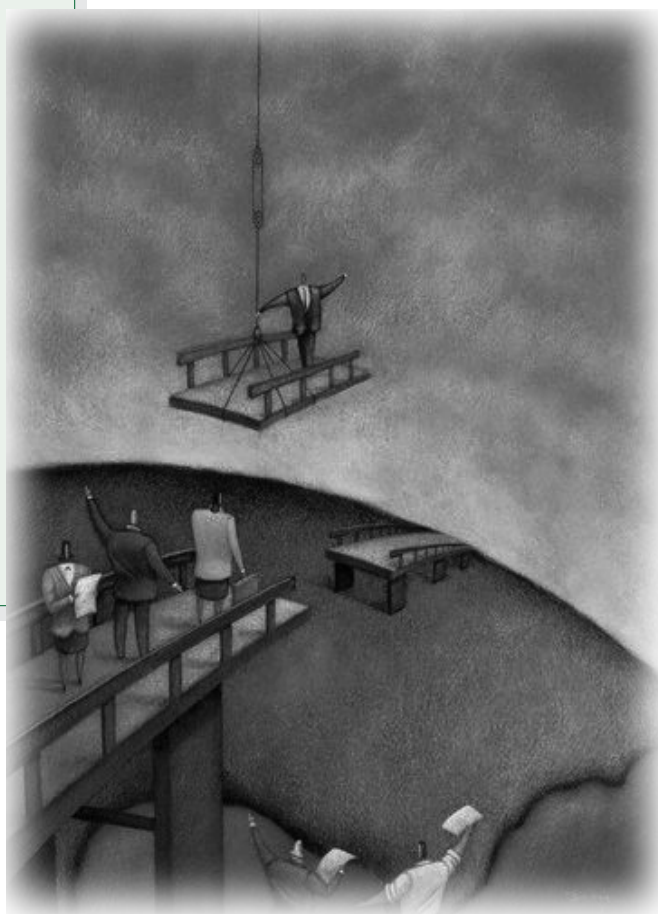
Santee Cooper

SCANA

Southern Company (The)

TECO Energy, Inc.

Tennessee Valley Authority (TVA)



Sources of Support

Core funding for the Board comes from the appropriations of its 18 member jurisdiction legislation. Each member's share of support is determined by a formula written into the original Compact. The formula uses relative state population, per capita income and equal shares as factors. The Board has not requested an increase in state appropriations since 1987.

The Board also is authorized to accept funds from any state, federal agency, interstate agency, institution, person, firm or corporation provided those funds are used for the Board's purposes and functions. This year, additional support was received for special projects from research grants, cooperative agreements and contracts from the U.S. Department of Energy, U.S. Environmental Protection Agency, U.S. Department of Transportation and various other funding sources.

In addition, SSEB maintains an Associate Members program comprised of industry partners who provide an annual contribution to the Board. Membership includes organizations from the non-governmental sector, such as corporations, trade associations and public advocacy groups. The Associate Members program provides an opportunity for public officials and industry representatives to exchange ideas, define objectives and advance energy and environmental planning to improve and enhance the South's economic and environmental well-being.

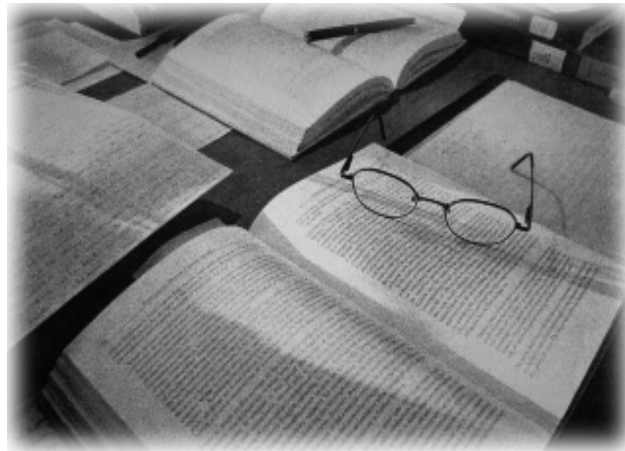
Alabama	\$32,572
Arkansas	\$31,027
Florida	\$47,212
Georgia	\$35,782
Kentucky	\$32,197
Louisiana	\$33,817
Maryland	\$37,192
Mississippi	\$29,077
Missouri	\$36,247
North Carolina	\$37,042
Oklahoma	\$32,512
Puerto Rico	\$25,597
South Carolina	\$31,372
Tennessee	\$34,267
Texas	\$55,402
U.S. Virgin Islands	\$25,297
Virginia	\$38,362
West Virginia	\$28,732

Selected Reports & Publications

Energy and Environment Information

Annually, numerous requests for specific technical and policy information occur from SSEB members, state and federal government officials, legislators and other parties, including the general public. SSEB provides direct technical and analytical support to its constituents on a variety of energy and environmental issues facing the region.

SSEB also maintains a website, accessible at www.sseb.org, that serves as a primary link to energy and environmental resources on the internet. Visitors can quickly link to a variety of data and download the latest SSEB publications. Following is a list of SSEB's frequently requested publications.



Selected Reports & Publications

Annual Report 2005. August 2005.

This report contains a statement by SSEB Chairman Ernie Fletcher, Governor of Kentucky, updates on SSEB programs and activities, Board members and staff listing.

An Assessment of Biomass-related State Programs and Policies. July 2005.

The analysis considers a broad range of policies and incentives throughout the United States and examines their impact on the bioenergy and biobased product industry. This study was funded by the National Energy Technology Laboratory.

Assessment of Opportunities to Co-locate Ethanol-from-Cellulose Plants at Coal-Fueled Power Plants in the Southeastern U.S. July 2002.

Co-locating ethanol-from-cellulose plants near coal-fired power plant projects can result in advantages for both facilities. This assessment provides a list of plants and highlights important siting criteria.

Coal: The Indispensable Energy Resource, a Compendium of Vital Information About Coal and the Southern Region. September 1997.

This special report assesses the coal industry's presence and contribution to the southern region so that policymakers can utilize the information in assessing the growth of their state's economy.

Coal, Clean Coal Technology and Advanced Power Systems: U.S. Opportunities in Brazil. September 1999.

The U.S.-Brazil Coal and Clean Coal Technology Export Package: (1) identifies coal and clean coal technology needs for Brazil; (2) summarizes actions that have been taken, are planned or are suggested to position U.S. companies to win projects; and (3) provides points-of-contact and other information that may be of value to companies interested in positioning themselves to sell goods and services to the Brazilian coal and power industries. The compilation of information and ideas is a resource for companies to develop their individual Brazilian marketing strategies.

Coal Regulatory Legislation in the Southern States: 1995-2003. September 2003.

SSEB member states' regulations on the utilization of our coal resources are detailed in this summary document. Included are brief descriptions of laws enacted with regard to coal and minerals in the southern states during the 1995-2003 legislative sessions. This list is requested frequently from agencies that develop legislation affecting the industrial use of coal and the regulation of environmental quality within their states.

Compendium of Energy Task Forces in the Southern States. January 2002.

This is an ongoing compilation of information on the energy task forces in the southern region. It includes reports prepared by these task forces, as well as executive orders, press releases and meeting summaries.

Economic Benefits of Recycling in the Southern States. August 1996.

The Southern States Waste Management Coalition initiated this study on the economic activity associated with recycling in the South. It provides information that can be used to promote investment in the regional recycling industry. Analysis considers the employment and value-added by processing materials recovered from the municipal solid waste stream and using these materials in manufacturing.

Energy and Environment Legislative Digest 2005. August 2005.

The legislative digest is an annual synopsis compilation of representative energy and environmental quality legislation enacted by Southern States Energy Board member jurisdictions. This edition summarizes the laws from the 2005 legislative sessions and includes an introduction by John C. Watkins, State Senator of Virginia and SSEB Vice-Chair.

Energy Offices in the South. December 2001.

The organizational structure, function and scope of state energy offices in the southern region are provided in this 2001 report. The information proves useful to southern lawmakers, their staffs and all parties interested in energy matters in the South.

Energy Policy in the South - Integrating Energy, Environment, and Economic Development: A Balanced and Comprehensive Approach. September 2001.

Prepared for the Southern Governors' Task Force on Energy Policy, this document was approved by the southern governors on August 7, 2001. It contains five key principles and policy options for a southern regional energy policy.

Household Products Management: A Resource Guide for Managing Household Products and Household Hazardous Waste. 1999.

This guide assists officials who are responsible for the safe management of household product waste and advises residents about proper disposal of these products. It is designed for the use and distribution by local governments that do not have household hazardous waste collection programs and experience in managing household product waste or household hazardous waste.

Industry Survey Final Report - Developing State Policies Supportive of Bioenergy Development. July 2004.

Biobased industry officials were surveyed to determine the impact of existing and/or lack of policies on efforts to develop, deploy, or use biobased technologies or products. Although this survey was focused on industry, in some cases questionnaires were sent throughout North America to trade associations, and a few questionnaires were sent to selected government officials and academia throughout North America. The survey asked for comments on the effectiveness of the existing policies and programs, and asked to suggest changes in the existing policies and programs or suggest new policies and programs that are needed. The survey also asked those suggesting changes or new policies and programs to explain the rationale for their suggestions.

Integrated Management of Municipal Solid Waste: A Handbook for Local Officials. January 1995.

Local officials often face important issues when managing municipal solid waste systems. This handbook answers the questions that solid waste managers must ask when developing an integrated solid waste management system and refers the reader to more detailed information about solid waste management techniques found in the Southern States Waste Management Coalition's database of solid waste information.

Integration of Systems and Technologies for Clean Coal Power and Industrial Symbiosis in Thailand. January 2004.

This report is a product of a three-year cooperative effort, led by the Southern States Energy Board, to promote U.S. systems and technologies for clean fossil power and industrial symbiosis in Thailand's industrial estates.

Pay-As-You-Throw Programs in the South: Summaries of Existing Unit Pricing Programs for Municipal Solid Waste Collection. June 1997.

A product of the SSWMC, this document contains a brief compilation of the programs in the SSEB region as of June 1997. It is intended as a quick reference for local officials interested in PAYT.

Processing Recyclables for Markets: A One-Stop Commodity Guidebook for Local Governments. February 1995.

The goal of this guidebook is to assist local leaders and other processors of recyclable commodities in developing processing and marketing systems that are appropriate, efficient and sustainable. State and local officials throughout the region use this document on a regular basis.

Southeastern Regional Technology Deployment Workshop: Results and Lessons Learned. September 1999.

Following the Southeastern Regional Technology Deployment Workshop in 1999, SSEB compiled a list of results and lessons learned. The findings are documented in this summary, consisting of four parts: (1) background information on the setup of the southeastern workshop; (2) list of incentives and recommendations for deploying innovative technologies at DOE sites; (3) list of the lessons learned from the southeastern workshop; and (4) results from the post-workshop survey.

Southern Mutual Radiation Assistance Plan (SMRAP). December 2004 (2005 edition available in December).

This annual publication contains the general provisions of the Southern Mutual Radiation Assistance Plan, which provides a mechanism for coordinating radiological emergency assistance capabilities among participating states. It is updated annually by the Southern Emergency Response Council, for which SSEB serves as secretariat.

2004-2005 Board Membership & Staff

Members of the Southern States Energy Board include the governors of each jurisdiction, their alternates and a representative from both the House and the Senate. Non-voting members of the Board include a federal representative who is appointed by the President of the United States, the Southern Legislative Conference's Energy and Environment Committee Chair and SSEB's executive director. The list of members below reflects officials serving on the Board as of August 10, 2005. For a current roster, please contact the SSEB staff or visit our website at www.sseb.org.

Executive Committee

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Chairman-Elect

Vacant (Pending Appointment)

Vice-Chair

Senator John C. Watkins, Virginia

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Representative Wilfred Pierre, Louisiana

Member, Executive Committee

The Honorable Brad Henry, Governor of Oklahoma

Member, Executive Committee

The Honorable Sonny Perdue, Governor of Georgia

Member, Executive Committee

Senator Jerry Cooper, Tennessee

Member, Executive Committee

Representative Robert (Skipper) Perry, South Carolina

Member, Executive Committee

Representative John Raymond Reeves, Mississippi

Member, Executive Committee

Vacant (Pending Appointment)

Federal Representative

The Honorable Brian C. Griffin, Oklahoma[●]

Secretary

Kenneth J. Nemeth, Executive Director, SSEB[■]

Southern Legislative Conference (SLC) Energy and Environment Committee Chair

Senator J. Chris Ullo, Louisiana[■]

- Ex-Officio, Non-Voting Executive Committee Members
- The Board's by-laws provide that the Southern Legislative Conference Energy and Environment Committee Chair serves as a non-voting Executive Committee Member.

Members of the Board

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Representative Locy “Sonny” Baker
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Representative Harry Geisinger

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Representative Rex Rector

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Patrick Esposito, Sr., Ph.D. (Governor’s Alternate)
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